
Logistics Occupations

Assemblers
Cargo and Freight Agents
Hand Packers and Packagers
Inspectors, Testers, Sorters, Samplers, and Weighers
Laborers and Freight, Stock, and Material Movers
Material Moving Occupations
Packaging and Filling Machine Operators and Tenders
Production Helpers
Shipping, Receiving, and Traffic Clerks
Transportation, Storage, and Distribution Managers
Truck Drivers, Heavy and Tractor-Trailer
Truck Drivers, Light or Delivery Services

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What They Do

Have you ever participated in a relay race where you run as fast as you can and then pass the baton to the next runner? Assembly line work is a bit like that except that as you pass off the baton another baton is coming your way. Assemblers work quickly to complete their step in a production line before the product moves to the next step toward completion. Assembly line workers need to be experts in just one step of production rather than being able to make the complete product from start to finish.

Generations of Americans have viewed reruns of the "I Love Lucy" episode where Lucy hopelessly attempts to wrap chocolate candy pieces speeding by her on a runaway conveyor belt. Assembly lines are found in most industries. Automotive assembly lines offer the most well-known example of production lines. From candy to cars, assembly lines offer a more cost-effective way to mass produce goods.

Tasks

The title and duties of Assemblers vary from industry to industry and employer to employer. The most common types of Assemblers are listed below:

Electrical and Electronic Equipment Assemblers assemble or modify electrical or electronic equipment, such as computers, test equipment, telemetering systems, electric motors, and batteries.

- ▶ Read and interpret schematic drawings, blueprints, and work orders to determine materials requirements and assembly instructions.
- ▶ Drill and tap holes in specified locations to mount control units and to provide openings for elements, wiring, and instruments.
- ▶ Assemble systems and support structures, and install components, units, and printed circuit boards, following specifications, using hand tools and power tools.
- ▶ Position, align, and adjust work pieces and electrical parts to facilitate wiring and assembly.
- ▶ Measure and adjust voltages to specified value to determine operational accuracy of instruments.
- ▶ Inspect units to detect malfunctions, and adjust, repair, or replace component parts to ensure conformance to specifications.
- ▶ Maintain production, time, and component waste records.

Assemblers

Coil Winders, Tapers and Finishers wind wire coils used in electrical components and electrical equipment and instruments.

- ▶ Review work orders and specifications to determine material needed and type of part to be processed.
- ▶ Attach, alter, and trim materials, such as wire, insulation, and coils, using hand tools.
- ▶ Operate or tend wire-coiling machine.
- ▶ Observe gauges and stop machine to remove completed components, using hand tools.
- ▶ Record productions and operational data on specified forms.

Electromechanical Equipment Assemblers assemble or modify electromechanical equipment or devices, such as servomechanisms, gyros, dynamometers, magnetic drums, tape drives, brakes, control linkage, actuators, and appliances.

- ▶ Read blueprints and specifications to determine component parts and assembly sequence of electromechanical unit.
- ▶ Measure parts to determine tolerances, using precision measuring instruments, such as micrometers, calipers, and verniers.
- ▶ Position and align parts, using fixtures, jigs, and templates.
- ▶ Drill, tap, ream, countersink, and spotface bolt holes in parts, using drill press and portable power drill.
- ▶ Assemble parts or unit, and attach unit to assembly, subassembly, or frame, using hand tools and power tools.
- ▶ Inspect, test, and adjust completed unit to ensure that unit meets specifications, tolerances, and customer order requirements.
- ▶ Attach name plates and mark identifying information on parts.

Engine and Other Machine Assemblers construct, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing.

- ▶ Read and interpret assembly blueprints and specifications manuals, and plan assembly or building operations.
- ▶ Rework, repair, and replace damaged parts or assemblies.
- ▶ Verify conformance of parts to stock lists and blueprints, using measuring instruments such as calipers, gauges, and micrometers.
- ▶ Fasten and install piping, fixtures, or wiring and electrical components to form assemblies or subassemblies, using hand tools, rivet guns, and welding equipment.
- ▶ Inspect, operate, and test completed products to verify functioning, machine capabilities, and conformance to customer specifications.

Team Assemblers work as part of a team having responsibility for assembling an entire product or component of a product. They may participate in making management decisions affecting the work.

- ▶ Rotate through all the tasks required in a particular production process.
- ▶ Determine work assignments and procedures.
- ▶ Operate heavy equipment such as fork lifts.

- ▶ Provide assistance in the production of wiring assemblies.
- ▶ Shovel and sweep work areas.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge, and Abilities

- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- ▶ Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- ▶ Equipment Selection — Determining the kind of tools and equipment needed to do a job.
- ▶ Finger Dexterity — The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.

Good eyesight is required for positions working with small parts. Electrical/Electronic Assemblers must be able to correctly identify colors to match colored wires and parts.

Work Environment

Most Assemblers work in air conditioned buildings. Other working conditions for Assemblers will differ by industry, employer, and product. Some products must be assembled in spotless, dust-free conditions provided by a cleanroom. Other products are assembled where loud noise, fumes, vibrations, and dust abound. Some Assemblers stand most of the time while other Assemblers work seated at benches. Kneeling, crouching, stooping, and crawling may be necessary in some Assembler jobs. Protective or safety equipment such as safety shoes, glasses, gloves, hearing protection, or hard hats may be required on the job. Many Assemblers work with automated equipment which determines the pace of the work.

Some manufacturing plants operate around the clock, and Assemblers may be required to work evenings, nights, or weekends as well as overtime when needed. As workers obtain seniority, they have more choice about shift assignments. Union membership may be available in some industries.

Assemblers

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupations across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Electrical and Electronic Equipment Assemblers				
51-2022	39,700	34,300	400	\$9.51 to \$15.58
Coil Winders, Tapers, and Finishers				
51-2021	3,000	2,600	30	\$8.86 to \$13.58
Electromechanical Equipment Assemblers				
51-2023	10,500	9,700	170	\$9.57 to \$15.45
Engine and Other Machine Assemblers				
51-2031	1,600	1,600	50	\$12.07 to \$17.40
Team Assemblers				
51-2092	113,900	113,700	2,920	\$8.39 to \$13.30

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

The number of Assembler jobs are declining. Jobs for Assemblers will come from replacing workers who permanently leave the field rather than job growth. Many Assembler jobs were moved overseas by employers for lower labor costs. Companies often contract with temporary help firms for Assemblers rather than hire directly. Automation of assembly processes has further reduced the need for Assemblers. A new type of automation, cobots, will be operated by Assemblers. A cobot is a robot-like device that collaborates with a human operator to move and position parts.

Training/Requirements/Apprenticeships

Many Assembler jobs are entry-level positions that require only a high school diploma. Other Assembler jobs call for training programs offered by regional occupational programs (ROP), community colleges, and vocational schools.

Recommended High School Course Work

Helpful high school courses for students interested in this kind of work include mathematics, electronics, drafting, computers, and metal shop.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following industry names to get a list of private firms and their addresses:

- ▶ Bare Printed Circuit Board
- ▶ Dental Laboratories
- ▶ Electricity & Signal Testing Instruments
- ▶ Industrial Process Variable Instruments
- ▶ Other Electronic Component
- ▶ Other Engine Equipment
- ▶ Search, Detection & Navigation Instrument
- ▶ Semiconductor and Related Devices
- ▶ Speed Changer, Drive, and Gear
- ▶ Surgical and Medical Instrument
- ▶ Surgical Appliance and Supplies
- ▶ Turbine Generator & Generator Set Units

Search **yellow page** headings for employment services or temporary help agencies since many manufacturers use Assemblers who are actually employees of the employment service agency.

Where Can the Job Lead?

Experienced Assemblers can advance to quality control, repair, and supervisory positions as they become more skilled. In a research and development section, they may assist with building prototypes. Assemblers who develop their math and computer skills will be prepared for automated production line equipment advances. Apprenticeship opportunities for skilled trades, such as Tool and Die Maker, may be available in some companies.

Other Sources of Information

International Association of Machinists and Aerospace Workers
www.iamaw.org

International Union, United Automobile, Aerospace
and Agricultural Implement Workers of America (UAW)
www.uaw.org

Get Tech
www.gettech.org

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What They Do

Cargo and Freight Agents arrange for and track incoming and outgoing cargo and freight shipments in airline, train, or trucking terminals or on shipping docks. They expedite the movement of shipments by determining the route that shipments are to take and by preparing all necessary shipping documents. The agents take orders from customers and arrange for the pickup of freight or cargo for delivery to loading platforms. Cargo and Freight Agents may keep records of the properties of the cargo, such as its amount, type, weight, and dimensions. They keep a tally of missing items, record the conditions of damaged items, and document any excess supplies.

Cargo and Freight Agents arrange cargo according to its destination. They also determine the shipping rates and other charges that can sometimes apply to the freight. For imported or exported freight, they verify that the proper customs paperwork is in order. Cargo and Freight Agents often track shipments electronically, using bar codes, and answer customers' inquiries on the status of their shipments.

Tasks

- ▶ Advise clients on transportation and payment methods.
- ▶ Arrange insurance coverage for goods.
- ▶ Check import/export documentation to determine cargo contents, and classify goods into different fee or tariff groups, using a tariff coding system.
- ▶ Contact vendors and/or claims adjustment departments in order to resolve problems with shipments, or contact service depots to arrange for repairs.
- ▶ Determine method of shipment, and prepare bills of lading, invoices, and other shipping documents.
- ▶ Direct delivery trucks to shipping doors or designated marshalling areas, and help load and unload goods safely.
- ▶ Direct or participate in cargo loading in order to ensure completeness of load and even distribution of weight.
- ▶ Enter shipping information into a computer by hand or by using a hand-held scanner that reads bar codes on goods.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Cargo and Freight Agents

Work Environment

Cargo and Freight Agents may work indoors or outdoors. The working conditions vary depending on the type of employer. Those Cargo and Freight Agents working in large warehouses, shipping docks, or airline, train, or trucking terminals may experience uncomfortable temperatures or weather conditions. They sometimes work under pressure to move cargo in or out according to tight time schedules, which may be stressful. This occurs during certain times of the year, such as Christmas, when companies receive rush orders. Cargo and Freight Agents must have patience and the ability to work independently and maintain good working relationships with coworkers. Cargo and Freight Agents generally work 40 hours per week. However, they may work longer hours if deliveries arrive at an unexpected time. Shift work may be available at larger companies.

Important Skills, Knowledge, and Abilities

- ▶ Service Orientation — Actively looking for ways to help people.
- ▶ Coordination — Adjusting actions in relation to others' actions.
- ▶ Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
- ▶ Active Listening — Giving full attention to what people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- ▶ Clerical — Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
- ▶ Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- ▶ Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- ▶ Trunk Strength — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.
- ▶ Static Strength — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- ▶ Oral Expression — The ability to communicate information and ideas in speaking so others will understand.

What's the California Job Outlook?

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Cargo and Freight Agents				
43-5011	10,600	12,100	390	\$14.09 to \$25.85

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Cargo and Freight Agents is expected to grow slower than average compared with all occupations in California. Technological advances are responsible for the slower growth rate. For example, the increasing use of bar codes on cargo and freight allows agents and customers to track these shipments quickly over the Internet, rather than manually tracking their location. However, job openings will continue to occur due to increases in purchasing over the Internet, which results in the need for more shipments. Also, the popularity and importance of same-day delivery expands the role of agents.

Training/Requirements/Apprenticeships

Cargo and Freight Agents usually follow one of the following training paths:

- ▶ High school diploma or equivalent
- ▶ Community college programs or certificates
- ▶ Vocational school
- ▶ Extensive on-the-job training

Many community colleges offer Cargo and Freight Agent certificates or degrees. Some community colleges offer courses for transportation, storage, and distribution managers.

Recommended High School Course Work

High School preparation courses in language arts, general business, business mathematics, computer technology are helpful.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following manufacturing industry names to get a list of private firms and their addresses:

- ▶ Couriers
- ▶ Freight Transportation Arrangement
- ▶ General Freight Trucking, Local
- ▶ General Warehousing and Storage
- ▶ Other Nonscheduled Air Transportation
- ▶ Other Specialized Trucking, Local
- ▶ Other Specialized Trucking, Long-Dist
- ▶ Other Warehousing and Storage
- ▶ Refrigerated Warehousing and Storage
- ▶ Scheduled Freight Air Transportation
- ▶ Scheduled Passenger Air Transportation
- ▶ Used Household and Office Goods Moving

Search these **yellow page** headings for listings of private firms:

- ▶ Air Cargo & Package Express Service
- ▶ Freight Forwarding
- ▶ Packing & Crating Service
- ▶ Railroad Companies
- ▶ Ships & Ship Operation
- ▶ Trucking-Motor Freight
- ▶ Trucking Transportation Brokers

Cargo and Freight Agents

Where Can the Job Lead?

Advancement opportunities for Cargo and Freight Agents are limited. However, with increased experience individuals with leadership ability may advance to a general manager or warehouse manager position. Lateral moves to similar positions such as shipping, receiving, and traffic clerks, or weighers, measurers, checkers, and samplers may offer opportunities to gain additional skills.

Other Sources of Information

The American Institute for Shippers' Associations, Inc.
www.shippers.org

The International Air Cargo Association
www.tiaca.org

National Customs Brokers & Forwarders Association of America
www.ncbfaa.org

National Small Shipments Traffic Conference
www.nasstrac.org

Hand Packers and Packagers

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What They Do

The modern industrial assembly line is a marvel to view. Products move by at a dizzying rate. But in many cases, they would all wind up in a pile at the end of the line if it were not for Hand Packers and Packagers. Some tasks simply cannot be automated, so many production lines still rely on people to visually inspect and manually pack or package their output. Many products arrive at a store in cartons filled by hand at the end of the production line. Packers work in many industries and job titles reflect that diversity: Food Packer, Book Packer, Gift Basket Packer, Order Packer, Cigar Packer, and Shingle Packer.

The work is repetitive and workers must be able to keep up with the production line without distraction. For those who are hard working and reliable, becoming a Hand Packer or Packager can be an excellent way to enter manufacturing.

Tasks

- ▶ Load materials and products into package processing equipment.
- ▶ Obtain, move, and sort products, materials, containers, and orders, using hand tools.
- ▶ Assemble, line, and pad cartons, crates, and containers, using hand tools.
- ▶ Place or pour products or materials into containers, using hand tools and equipment, or fill containers from spouts or chutes.
- ▶ Mark and label containers, container tags, or products, using marking tools.
- ▶ Measure, weigh, and count products and materials.
- ▶ Examine and inspect containers, materials, and products in order to ensure that packing specifications are met.
- ▶ Remove completed or defective products or materials, placing them on moving equipment such as conveyors or in specified areas such as loading docks.
- ▶ Seal containers or materials, using glues, fasteners, nails, and hand tools.
- ▶ Record product, packaging, and order information on specified forms and records.
- ▶ Clean containers, materials, supplies, or work areas, using cleaning solutions and hand tools.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Hand Packers and Packagers

Important Skills, Knowledge, and Abilities

- ▶ **Production and Processing** — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- ▶ **Coordination** — Adjusting actions in relation to others' actions.
- ▶ **Speaking** — Talking to others to convey information effectively.
- ▶ **Manual Dexterity** — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ **Multilimb Coordination** — The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- ▶ **Trunk Strength** — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.
- ▶ **Near Vision** — The ability to see details at close range (within a few feet of the observer).

Work Environment

Most Hand Packers and Packagers work in air conditioned buildings. They stand most of the time and constantly use their hands in the packaging process. Workers may experience stress from time pressure of shipping deadlines or keeping up with products coming off the production line. Shift work is common for Hand Packers and Packagers. Union membership may be available in some industries.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Hand Packers and Packagers				
53-7064	115,000	134,500	4,100	\$7.54 to \$9.15

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

The largest increase in employment of Hand Packers and Packagers is expected in the employment services (temp agency) industry. Decreases in employment will occur in those industries that move production off shore.

Hand Packers and Packagers

Training/Requirements/Apprenticeships

There are few education requirements for Hand Packers and Packagers other than the ability to read and understand English. Training is often a short demonstration from an experienced worker. Core traits needed by Hand Packers and Packagers include careful attention to detail and a cooperative attitude.

Recommended High School Course Work

High school students interested in this kind of work should take mathematics and keyboarding classes.

Where Do I Find the Job?

Grocery stores employ more Hand Packers and Packagers than any other industry under the job title, Courtesy Clerk. Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following manufacturing industry names to get a list of private firms and their addresses:

- ▶ All Other Plastics Product
- ▶ Commercial Bakeries
- ▶ Convenience Stores
- ▶ Employment Placement Agencies
- ▶ Nonpackaging Plastics Film and Sheet
- ▶ Plastics Bottle
- ▶ Plastics Plumbing Fixture
- ▶ Professional Employer Organizations
- ▶ Retail Bakeries
- ▶ Supermarkets and Other Grocery Stores
- ▶ Temporary Help Services
- ▶ Urethane and Other Foam Product

Search these **yellow page** headings for listings of private firms:

- ▶ Employment-Temporary
- ▶ Gourmet Food Shops & Specialties
- ▶ Grocers & Markets, Retail
- ▶ Grocers & Markets, Wholesale
- ▶ Grocery Shopping and Delivery Services
- ▶ Packaging Services
- ▶ Packing and Crating Services
- ▶ Supermarkets and Super Stores

Where Can the Job Lead?

Workers who demonstrate reliability will be well-positioned for career growth. Opportunities for advancement depend on the industry and employer. Because Hand Packing and Packager work is available during all shifts and as temporary work, it is an ideal job for those who want their days free to pursue further education or skill training.

Other Sources of Information

Get Tech Careers
www.gettech.org

United Food and Commercial Workers International Union
www.ufcw.org

Inspectors, Testers, Sorters, Samplers, and Weighers

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What They Do

Quality is the goal of workers known as Inspectors, Testers, Sorters, Samplers, and Weighers. Manufacturing employs 70 percent of these workers in all phases of production. They may inspect raw materials used to manufacture products. They test products at each step of the product process. They ensure products that leave the plant meet specific standards.

The duties of Inspectors, Testers, Sorters, Samplers, and Weighers vary by industry, product, and stage of production. Some inspectors use test equipment to verify correct product size or weight. Other inspectors use their senses—sight, sound, touch, and smell. They identify defects such as scratches, color hue, and incomplete products. In the food processing industry, workers may even test by tasting.

Materials Inspectors examine and inspect materials and finished parts and products for defects and wear and to ensure conformance with work orders, diagrams, blueprints, and template specifications. They usually specialize in a single phase of inspection.

Mechanical Inspectors inspect and test mechanical assemblies and systems, such as motors, vehicles, and transportation equipment for defects and wear to ensure compliance with specifications. They operate finished products for testing. When needed, they complete procedures to satisfy licensing requirements.

Precision Devices Inspectors and Testers verify accuracy of and adjust precision devices, such as meters and gauges, testing instruments, and clock and watch mechanisms, to ensure operation of device is in accordance with design specifications. They read dials and meters to verify equipment is functioning according to specifications. When needed, they complete procedures to satisfy licensing requirements.

Electrical and Electronic Inspectors and Testers inspect and test electrical and electronic systems, such as radar navigational equipment, computer memory units, and television and radio transmitters, using precision measuring instruments. They read dials and meters to verify equipment is functioning according to specifications. They write and install computer programs to control test equipment.

Production Inspectors, Testers, Graders, Sorters, Samplers, and Weighers inspect, test, grade, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products. Work may be performed before, during, or after processing. They mark product or container to identify defects, grade, or size. They compare color, shape, texture, or grade of product or material with color chart template, or sample to verify compliance with standards, using test equipment, such as thermometers, voltmeters, moisture meters, or tensiometers.

Inspectors, Testers, Sorters, Samplers, and Weighers

Tasks

- ▶ Read and interpret materials, such as work orders, inspection manuals, and blueprints, to determine inspection and test procedures.
- ▶ Collect or select samples for testing.
- ▶ Analyze and interpret blueprints, sample data, and other materials to determine inspection and testing procedures.
- ▶ Inspect materials, products, and work in progress for conformance to specifications, and adjust process or assembly equipment as needed.
- ▶ Operate or tend machinery and equipment and use hand tools.
- ▶ Test and measure finished products, components, or assemblies for operation and accuracy.
- ▶ Mark items for acceptance or rejection and record test results and inspection data.
- ▶ Confer with vendors and others regarding inspection results, recommend corrective procedures, and compile reports of results, recommendations, and needed repairs.
- ▶ Clean and maintain test equipment and instruments.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge and Abilities

- ▶ Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- ▶ Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- ▶ Operation and Control — Controlling operations of equipment or systems.
- ▶ Science — Using scientific rules and methods to solve problems.
- ▶ Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ Design — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- ▶ Near Vision — The ability to see details at close range (within a few feet of the observer).
- ▶ Visual Color Discrimination — The ability to match or detect differences between colors, including shades of color and brightness.
- ▶ Written Comprehension — The ability to read and understand information and ideas presented in writing.
- ▶ Perceptual Speed — The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.

Inspectors, Testers, Sorters, Samplers, and Weighers

- **Information Ordering** — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Work Environment

Working conditions for Inspectors, Testers, Sorters, Samplers, and Weighers differ depending on industry and size of firm. Most will work indoors in air conditioned factories. Some will be on their feet most of the day at a workstation. Others will perform their work sitting. Heavy lifting may be involved depending on the part or product being inspected. Some plants will be noisy and gritty. Other plants must be clean and dust-free for manufacture of sensitive parts. Many manufacturing plants operate 24/7 and workers can expect to work evenings, nights, or weekends, as well as overtime when needed. As workers obtain seniority, they have more choice about shift assignments.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Inspectors, Testers, Sorters, Samplers, and Weighers				
51-9061	57,400	62,700	1,840	\$9.14 to \$18.28

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

The Inspectors, Testers, Sorters, Samplers, and Weighers occupation will grow slower than average for all occupations in California. The increased emphasis on quality has shifted quality from being the sole role of Inspectors, Testers, Sorters, Samplers, and Weighers to the job of all workers. This shift, as well as more automated inspection equipment, will affect the need to add new Inspectors, Testers, Sorters, Samplers, and Weighers.

Training/Requirements/Apprenticeships

Requirement vary greatly depending on the responsibility and industry. A high school diploma and short-term on-the-job training may suffice for jobs of sorting and simple pass/fail testing. More complex testing and inspection jobs go to experienced production workers who receive in-house training.

Recommended High School Course Work

High school students interested in this kind of work should take courses in mathematics, algebra, computers, mechanics, and communication skills.

Inspectors, Testers, Sorters, Samplers, and Weighers

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods. For top industries that employ Inspectors, Testers, Sorters, Samplers, and Weighers and a list of major employers in your area, go to www.labormarketinfo.edd.ca.gov or search the **yellow pages** under the headings for Employment Service-Temporary and Employee Leasing Services.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following industry names to get a list of private firms and their addresses:

- ▶ Aircraft
- ▶ Aircraft Engine and Engine Parts
- ▶ Bare Printed Circuit Board
- ▶ Electronic Coils, Transformer, and Inductor
- ▶ Electronic Connector
- ▶ Employment Placement Agencies
- ▶ Guided Missiles and Space Vehicles
- ▶ Other Aircraft parts and Equipment
- ▶ Other Electronic Component
- ▶ Professional Employer Organizations
- ▶ Semiconductor and Related Devices
- ▶ Temporary Help Services

Where Can the Job Lead?

The largest employment growth will be in the employment services industry as more manufacturers shift to lean manufacturing and turn to temporary help firms for Inspectors, Testers, Sorters, Samplers, and Weighers. Industries that expect to increase direct hiring of Inspectors, Sorters, Samplers, and Weighers include pharmaceutical and medicine manufacturing, warehousing and storage, apparel/piece goods merchant wholesalers, electric goods merchant wholesalers, and grocery product merchant wholesalers.

Opportunities for advancement depend on size of firm and industry. Higher pay may be the most common form of advancement. In larger firms, Inspectors, Testers, Sorters, Samplers, and Weighers may advance to supervisor or inspectors of more intricate products or transfer to jobs using similar skills and knowledge.

Other Sources of Information

American Society for Quality
www.asq.org

International Organization for Standardization
www.iso.ch

Laborers and Freight, Stock, and Material Movers

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What They Do

Laborers and Freight, Stock, and Material Movers (Hand) manually move materials or perform other unskilled general labor. These workers move freight, stock, and other materials to and from storage and production areas, loading docks, delivery vehicles, ships, and containers. Their specific duties vary by industry and work setting. Specialized workers within this group include baggage and cargo handlers, who work in transportation industries, and truck loaders and unloaders. In factories, they may move raw materials or finished goods between loading docks, storage areas, and work areas as well as sort materials and supplies and prepare them according to their work orders.

Tasks

Stevedores, except Equipment Operators

- ▶ Carry or move cargo by handtruck to wharf and stack cargo on pallets to facilitate transfer to and from ship.
- ▶ Stack cargo in transit shed or in hold of ship as directed.
- ▶ Attach and move slings used to lift cargo.
- ▶ Guide load being lifted to prevent swinging.
- ▶ Shore cargo in ship's hold to prevent shifting during voyage.

Freight, Stock, and Material Movers (Hand)

- ▶ Load and unload materials to and from designated storage areas, such as racks and shelves, or vehicles, such as trucks.
- ▶ Stack or pile materials, such as lumber, boards, or pallets.
- ▶ Bundle and band material, such as fodder and tobacco leaves, using banding machines.
- ▶ Sort and store items according to specifications.
- ▶ Assemble product containers and crates, using hand tools and precut lumber.
- ▶ Attach identifying tags or mark information on containers.
- ▶ Adjust or replace equipment parts, such as rollers, belts, plugs, and caps, using hand tools.
- ▶ Record number of units handled and moved, using daily production sheet or work tickets.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Laborers and Freight, Stock, and Material Movers

Important Skills, Knowledge, and Abilities

- ▶ **Production and Processing** — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ **Engineering and Technology** — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- ▶ **Mechanical** — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ **Equipment Selection** — Determining the kind of tools and equipment needed to do a job.
- ▶ **Reading Comprehension** — Understanding written sentences and paragraphs in work-related documents.
- ▶ **Installation** — Installing equipment, machines, wiring, or programs to meet specifications.
- ▶ **Manual Dexterity** — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ **Information Ordering** — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- ▶ **Dynamic Strength** — The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- ▶ **Trunk Strength** — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.
- ▶ **Extend Flexibility** — The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
- ▶ **Static Strength** — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- ▶ **Oral Comprehension** — The ability to listen to and understand information and ideas presented through spoken words and sentences.

Work Environment

Many Laborers and Freight, Stock, and Material Movers (Hand) work outdoors in all types of weather conditions. They do repetitive and physically demanding work. They may lift and carry heavy objects, and stoop, kneel, crouch, or crawl in awkward positions. Workers in this occupation typically work 8-hour shifts, although longer shifts are also common. In many industries that work around the clock, workers work evening or graveyard shifts. Some may work at night to prevent the disruption to customers during normal business hours.

Laborers and Freight, Stock, and Material Movers

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Laborers and Freight, Stock, and Material Movers (Hand)				
53-7062	264,300	293,900	11,600	\$8.04 to \$12.41

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

There will be numerous job openings in this occupation due to its large size and the need to replace workers who transfer to other occupations or who retire or leave the labor force for other reasons. Employment of Laborers and Freight, Stock, and Material Movers (Hand) is expected to grow at a slower than average rate from 2002 to 2012. Temporary help agencies employ the largest number of workers in this occupation. This employment trend will increase as more employers contract out these services.

Training/Requirements/Apprenticeships

Laborers and Freight, Stock, and Material Movers (Hand) jobs require little work experience or specific training. Workers usually develop skills by learning from more experienced workers or supervisors. Some employers prefer applicants with a high school diploma, but most want workers at least 18 years of age who are able to meet the physical demands of the work. Employers may require applicants to pass a physical exam, undergo drug testing, and/or background checks prior to employment. As a result of the significant physical requirements, limited training, and low pay, these workers are frequently younger than workers in other occupations.

Recommended High School Course Work

High school students interested in this kind of work should take language arts and basic computer and mathematics.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following manufacturing industry names to get a list of private firms and their addresses:

- ▶ All Other Durable Goods Merchant Whsle
- ▶ Couriers
- ▶ Employment Placement Agencies
- ▶ Fruit & Vegetable Merchant Wholesaler
- ▶ General Warehousing and Storage
- ▶ Jewelry Merchant Wholesaler
- ▶ Other Grocery Product Merchant Whsle
- ▶ Professional Employer Organizations

Laborers and Freight, Stock, and Material Movers

- ▶ General Freight Trucking, Local
- ▶ General Line Grocery Merchant Whse
- ▶ Refrigerated Warehousing and Storage
- ▶ Temporary Help Services

Search these **yellow page** headings for listings of private firms:

- ▶ Delivery Service
- ▶ Freight Forwarding
- ▶ Grocers-Wholesale
- ▶ Stevedoring Contractors
- ▶ Trucking

Where Can the Job Lead?

It is common for workers to start in this occupation before being promoted to a better paying and more highly skilled job. Some may eventually advance to supervisor.

Other Sources of Information

Council of Supply Chain Management Professionals
www.cscmp.org

National Association of Manufacturers
www.nam.org

Pacific Maritime Association
www.pmanet.org

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[View Career Video](#)

What They Do

Conveyor Operators and Tenders lift and load materials onto conveyor systems. They coordinate the flow of materials while feeding items properly onto conveyor belts that move materials to or from stockpiles, processing stations, departments, or vehicles. Conveyor Operators and Tenders read production and delivery schedules and consult with supervisors to determine sorting and transfer procedures, arrangement of packages on pallets, and destinations of loaded pallets. They also stop equipment to clear jams using poles, bars, and hand tools or remove damaged materials from conveyors. Conveyor Operators and Tenders use hand tools to affix identifying information labels to products or materials.

Industrial Truck and Tractor Operators drive and control industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, or construction site. They may work both indoors and outdoors. The work includes loading and unloading freight cars, trucks, aircraft, and ships. Industrial vehicles are usually called a forklift or lift truck and are equipped with a hydraulic lifting mechanism and forks. Workers may also drive tractors that pull trailers loaded with materials, goods or equipment within factories and warehouses, or around outdoor storage areas. Industrial Truck and Tractor Operators may refuel or recharge vehicles, check the oil and battery, and make minor repairs and adjustments, when necessary.

Tasks

Conveyor Operators and Tenders

- ▶ Inform supervisors of equipment malfunctions that need to be addressed.
- ▶ Load, unload, or adjust materials or products on conveyors by hand, by using lifts, hoists, and scoops, or by opening gates, chutes, or hoppers.
- ▶ Manipulate controls, levers, and valves to start pumps, auxiliary equipment, or conveyors, and to adjust equipment positions, speeds, timing, and material flows.
- ▶ Observe conveyor operations and monitor lights, dials, and gauges, in order to maintain specified operating levels and to detect equipment malfunctions.
- ▶ Observe packages moving along conveyors in order to identify packages and to detect defective packaging.
- ▶ Position deflector bars, gates, chutes, or spouts to divert flow of materials from one conveyor onto another conveyor.

Material Moving Occupations

- ▶ Read production and delivery schedules, and confer with supervisors, to determine sorting and transfer procedures, arrangement of packages on pallets, and destinations of loaded pallets.

Industrial Truck and Tractor Operators

- ▶ Move controls to drive gasoline or electric powered trucks, cars, or tractors and transport materials between loading, processing, and storage areas.
- ▶ Move levers and controls that operate lifting devices, such as forklifts, lift beams and swivel-hooks, hoists, and elevating platforms, in order to load, unload, transport, and stack material.
- ▶ Position lifting devices under, over, or around loaded pallets, skids, and boxes, and secure material or products for transport to designated areas.
- ▶ Manually load or unload materials onto or off pallets, skids, platforms, cars, or lifting devices.
- ▶ Perform routine maintenance on vehicles and auxiliary equipment, such as cleaning, lubricating, recharging batteries, fueling, or replacing liquefied-gas tank.
- ▶ Operate or tend automatic stacking, loading, packaging, or cutting machines.
- ▶ Signal workers to discharge, dump, or level materials.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge, and Abilities

- ▶ Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- ▶ Mathematics — Using mathematics to solve problems.
- ▶ English Language — Knowledge of the structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
- ▶ Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- ▶ Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- ▶ Operation and Control — Controlling operations of equipment or systems.
- ▶ Arm-Hand Steadiness — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- ▶ Multilimb Coordination — The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.

Material Moving Occupations

- ▶ **Depth Perception** — The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
- ▶ **Control Precision** — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- ▶ **Static Strength** — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- ▶ **Trunk Strength** — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

Work Environment

Some Material Moving Workers may work at great heights or outdoors in all weather conditions. They may be exposed to harmful materials or chemicals, fumes, odors, loud noises, or dangerous machinery. However, the risk of injuries are minimized by following proper safety procedures and by wearing protective clothing, such as gloves, hardhats and devices to protect the eyes, mouth, or hearing.

Material Movers usually work regular eight-hour shifts. However, some industries operate around-the-clock operations that may require working evening or graveyard shifts.

Some Conveyor Operators and Industrial Truck and Tractor Operators may belong to a variety of unions, such as the Teamsters, Longshoremen's, or Warehousemen's union, depending on the industry and employer.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupations across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Industrial Truck and Tractor Operators				
53-7051	60,700	69,400	2,020	\$10.78 to \$18.58
Conveyor Operators and Tenders				
53-7011	7,000	8,200	320	\$10.62 to \$15.56

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Industrial Truck and Tractor Operators is expected to grow more slowly than average for all occupations over the 2002-2012 period. However, opportunities will continue to arise from the need to replace the Industrial Truck and Tractor Operators who retire or leave the labor force for other reasons.

Employment of Conveyor Operators and Tenders is expected to grow at about an average rate for all occupations over the 2002-2012 period.

Material Moving Occupations

Improvements to material moving equipment, including the increasing automation of material handling in factories and warehouses, will continue to raise productivity and limit the demand for material movers. Although automation will eliminate some manual tasks, new jobs will be created to operate and maintain material moving equipment.

Training/Requirements/Apprenticeships

Conveyor Operators and Tenders and Industrial Truck and Tractor Operators usually follow one of the following training paths:

- ▶ On-the-job training
- ▶ High school diploma preferred

Conveyor Operators and Tenders and Industrial Truck and Tractor Operators usually learn their skills informally, on-the-job, from more experienced workers. Although not required, many employers prefer a high school diploma.

Recommended High School Course Work

High school students interested in this kind of work should take language arts, mathematics, and automobile mechanics, as well as computer technology courses since material moving equipment is becoming increasingly more automated.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods. Candidates for training should apply directly to employers who employ Conveyor Operators and Tenders and Industrial Truck and Tractor Operators.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following manufacturing industry names to get a list of private firms and their addresses:

- | | |
|---|--|
| ▶ Business to Business Electronic Markets | ▶ Meat Processed from Carcasses |
| ▶ Couriers | ▶ Other Building Material Dealers |
| ▶ Employment Placement Agencies | ▶ Professional Employer Organizations |
| ▶ General Warehousing and Storage | ▶ Refrigerated Warehousing and Storage |
| ▶ Hardware Stores | ▶ Temporary Help Services |
| ▶ Home Centers | ▶ Wholesale Trade Agents and Brokers |

Search these **yellow page** headings for listings of private firms:

- | | |
|---|---|
| ▶ Air Cargo and Package Express Service | ▶ Manufacturers' Agents and Representatives |
| ▶ Conveyors and Conveying Equipment | ▶ Warehouses-Private |
| ▶ Freight Forwarding | ▶ Warehouses-Public-Commercial |

Where Can the Job Lead?

Promotional opportunities are a bit limited. However, experienced Conveyor Operators and Industrial Truck and Tractor Operators may advance to supervisory positions.

Other Sources of Information

Careers in Logistics
Council of Logistics Management
www.cscmp.org

Conveyor Equipment Manufacturers Association
www.cemanet.org

International Brotherhood of Teamsters
www.teamster.org

Industrial Truck Association
www.indtrk.org

International Warehouse Logistics Association
www.iwla.com

Material Handling Industry of America
www.mhia.org

National Association of Manufacturers
www.nam.org

Packaging and Filling Machine Tenders and Operators

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[View Career Video](#)

What They Do

Nearly all goods sold, from jelly beans to video games, come in packaging designed to provide a flawless product to the consumer. Making sure items are properly packaged is the job of Packaging and Filling Machine Operators and Tenders. Packaging readies the product for display, purchase, or shipment and the type of packaging varies by product. Products may be rolled into sheets, bagged, boxed, or wrapped.

Packaging and Filling Machine Operators and Tenders use a variety of machines and tools to get the job done: vacuum testing machines, labeling machines, printing machines, hand trucks, pallet jacks, stretch wrap machines, bar code devices, and computers. They keep batch production logs to track products for consumer safety should recall be necessary. They sanitize the packaging area to prevent contamination by one product to another.

Packaging and Filling Machine Operators and Tenders work in manufacturing and food processing industries under job titles such as Packaging Operator, Packaging Machine Technician, Packaging Line Operator, Filling Line Operator, Filler Operator, Carton Packaging Machine Operator, Blister Packaging Machine Operator.

Tasks

- ▶ Stock and sort product for packaging or filling machine operation, and replenish packaging supplies, such as wrapping paper, plastic sheet, boxes, cartons, glue, ink, or labels.
- ▶ Observe machine operations to ensure quality and conformity of filled or packaged products to standards.
- ▶ Adjust machine components and machine tension and pressure according to size or processing angle of product.
- ▶ Tend or operate machine that packages product.
- ▶ Stop or reset machines when malfunctions occur, clear machine jams, and report malfunctions to a supervisor.
- ▶ Secure finished packaged items by hand tying, sewing, gluing, stapling, or attaching fastener.
- ▶ Inspect and remove defective products and packaging material.
- ▶ Remove finished packaged items from machine and separate rejected items.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Packaging and Filling Machine Tenders and Operators

Important Skills, Knowledge, and Abilities

- ▶ **Production and Processing** — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ **Reading Comprehension** — Understanding written sentences and paragraphs in work-related documents.
- ▶ **Quality Control Analysis** — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- ▶ **Problem Sensitivity** — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- ▶ **Perceptual Speed** — The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- ▶ **Manual Dexterity** — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ **Control Precision** — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.

Work Environment

Modern plants usually provide a climate controlled work environment. Packaging and Filling Machine Operators and Tenders stand most of the time. Possible hazards include moving machinery and exposure to pollutants, dust, odors, and loud noise levels. Operators may wear protective or safety equipment such as safety shoes, glasses, gloves, hearing protection, or hard hats. Operators must pay attention to detail and be in frequent communication with other workers about the status of the production line to make adjustments as needed. Many manufacturing plants operate 24/7 and workers can expect to work evenings, nights, or weekends as well as overtime when needed. As workers obtain seniority, they have more choice about shift assignments.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Packaging and Filling Machine Operators and Tenders				
51-9111	43,800	54,500	1,940	\$8.10 to \$13.48

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Manufacturers will purchase more automated packaging equipment. Despite automation efforts, Packaging and Filling Machine Tenders and Operators will grow as fast as average compared to

Packaging and Filling Machine Tenders and Operators

other California occupations. Future trends include “smart and active” packaging that provides product safety and traceability information.

Training/Requirements/Apprenticeships

Most operators have a high school diploma or its equivalent. No special education is required for this entry-level job other than the ability to read and communicate effectively in English. Basic math is needed. Some jobs require heavy lifting and accurate color vision.

Recommended High School Course Work

High school students interested in manufacturing careers should take machine shop, mathematics, and computer courses.

Where Do I Find the Job?

Employment Services (temporary help agencies) are the largest employer of Packaging and Filling Machine Tenders and Operators. Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following manufacturing industry names to get a list of private firms and their addresses:

- ▶ Breweries
- ▶ Dried and Dehydrated Food
- ▶ Employment Placement Agencies
- ▶ Frozen Fruit and Vegetable
- ▶ Frozen Specialty Food
- ▶ Fruit and Vegetable Canning
- ▶ Ice
- ▶ Professional Employer Organizations
- ▶ Soft Drink
- ▶ Specialty Canning
- ▶ Temporary Help Services
- ▶ Wineries

Search these **yellow page** headings for listings of private firms:

- ▶ Bakers, Wholesale
- ▶ Beverages-Soft Drinks, Distributors & Bottlers
- ▶ Employment, Temporary
- ▶ Fruit & Vegetable Growers & Shippers
- ▶ Grocers & Markets, Wholesale
- ▶ Milk & Milk Products
- ▶ Pharmaceutical Products, Wholesale
- ▶ Tortillas

Where Can the Job Lead?

Opportunities for advancement depend on the industry and employer. Workers who demonstrate reliability will be well-positioned for career growth to other machine operator and supervisory positions. Because Packaging and Filling Machine Operator and Tender work is available during all shifts and as temporary work, it is an ideal job for those who want their days free to pursue further education or skill training.

Other Sources of Information

Get Tech Careers
www.gettech.org

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What They Do

Production Helpers assist more highly skilled production workers by performing tasks requiring limited knowledge of production processes. Duties include supplying or holding materials or tools, and cleaning the work area and equipment. Production Helpers start machines or equipment to begin the manufacturing process. They may set materials onto mechanical equipment for modifying or processing. Helpers mix or add substances to products as they progress through the mass-production process. Production Helpers observe manufacturing operations and notify equipment operators of malfunctions. They mark or tag identification on parts, read gauges and charts, and record production data. Helpers remove completed products, machine attachments, and waste material from machinery. They inspect finished products to ensure that they conform to company or government standards.

Tasks

- ▶ Clean and lubricate equipment.
- ▶ Signal coworkers to facilitate moving product, during processing.
- ▶ Measure amount of ingredients, length of extruded article, or work to ensure conformance to specifications.
- ▶ Replace damaged or worn equipment parts.
- ▶ Tend equipment to facilitate process.
- ▶ Mix ingredients, according to procedure.
- ▶ Turn valves to regulate flow of liquids or air, to reverse machine, to start pump, and to regulate equipment.

*Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important Skills, Knowledge, and Abilities

- ▶ Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- ▶ Operation and Control — Controlling operations of equipment or systems.
- ▶ Equipment Selection — Determining the kind of tools and equipment needed to do a job.
- ▶ Repairing — Repairing machines or systems using the needed tools.

Production Helpers

- ▶ **Production and Processing** — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ **Mechanical** — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ **Manual Dexterity** — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ **Control Precision** — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- ▶ **Problem Sensitivity** — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- ▶ **Information Ordering** — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Work Environment

Most Production Helpers work indoors in large manufacturing plants or sometimes outdoors on loading docks. Work spaces are usually clean, well lit, and well ventilated. Production Helpers work on their feet most of the day and must be able to do moderately heavy lifting, pushing, and pulling, etc. While working outdoors they may experience the discomforts of extreme weather conditions, such as very hot or cold temperatures. Production Helpers are also exposed to hazardous and powerful high-speed machines, and noise levels that may be uncomfortable. However, the work is generally safe for those who take reasonable care, use protective equipment, and adhere to safety rules. Most Production Helpers usually work a 40-hour work week. However, many large companies operate two or three shifts. Production Helpers may be required to work any shift including weekends and holidays. They may also work overtime to meet deadlines.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Production Helpers				
51-9198.02	42,900	45,700	1,480	\$7.98 to \$11.53

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Production Helpers is expected to grow slower than average for all occupations over the 2002-2012 period. However, opportunities will continue to arise from the need to replace the Production Helpers who retire or leave the labor force for other reasons.

Training/Requirements/Apprenticeships

Production Helpers usually follow one of the following training paths:

- ▶ High school diploma or equivalent
- ▶ On-the-job training

Recommended High School Course Work

High school preparation courses in language arts, mathematics, machine shop, and computer technology are helpful.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following manufacturing industry names to get a list of private firms and their addresses:

- | | |
|---------------------------------------|--------------------------------------|
| ▶ Automotive Body and Interior Repair | ▶ Commercial Screen Printing |
| ▶ Automotive Exhaust System Repair | ▶ Employment Placement Agencies |
| ▶ Automotive Glass Replacement Shops | ▶ General Automotive Repair |
| ▶ Automotive Transmission Repair | ▶ Other Automotive Mechanical Repair |
| ▶ Car Washes | ▶ Other Commercial Printing |
| ▶ Commercial Lithographic Printing | ▶ Temporary Help Services |

Search these **yellow page** headings for listings of private firms:

- | | |
|--|--|
| ▶ Die Makers | ▶ Pattern Makers |
| ▶ Manufacturer's Agent & Representatives | ▶ Plastics Fabricators |
| ▶ Metal Fabricators | ▶ Plastics-Molders-Injection |
| ▶ Metal Specialties | ▶ Plastics-Raw Materials-Colorants-Compounds |
| ▶ Metal Stamping | |

Where Can the Job Lead?

Advancement opportunities for Production Helpers are a bit limited. However, with increased experience individuals may advance to a general production worker. Those with leadership skills and who continue to learn new skills may advance to team leader, or supervisory positions, or to a production coordinator.

Other Sources of Information

The National Association of Manufacturers
www.nam.org

International Warehouse Logistics Association
www.iwla.com

Shipping, Receiving, and Traffic Clerks

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What They Do

Shipping Clerks are responsible for all outgoing shipments. They make sure that the right merchandise is being sent and is in perfect condition. Shipping Clerks prepare shipping documents and mailing labels. They record items taken from inventory and note when orders were filled. Shipping Clerks also look up and compute freight or postal rates, and record the weight and cost of each shipment. They may prepare invoices and furnish information about shipments to other parts of the company, such as the accounting department. When a shipment is checked and ready to go, Shipping Clerks may move the goods to the shipping dock and supervise the loading of the merchandise.

Receiving Clerks are responsible for verifying incoming shipments against the original order and accompanying invoice to determine whether the orders have been filled correctly. They unwrap incoming goods using tools such as pry bars and wire cutters. In many companies, Receiving Clerks use hand-held scanners to record barcodes on incoming products or enter the information into a computer. Shipments are checked for any discrepancies in quantity, price, and discounts. Receiving Clerks notify departments responsible for filing adjustment claims if merchandise is lost or damaged. They may also route or move shipments to the proper department, warehouse section, or stockroom.

Traffic Clerks maintain records on the destination, weight, and charges of incoming and outgoing freight. They verify rate charges by comparing the classification of materials with rate charts. Information is either scanned or entered by hand into a computer for use by the accounting department or other departments within the company. Traffic Clerks also keep a file of claims for overcharges and for damage to goods in transit.

Tasks

- ▶ Examine contents and compare with records, such as manifests, invoices, or orders, to verify accuracy of incoming or outgoing shipment.
- ▶ Determine shipping method for materials, using knowledge of shipping procedures, routes, and rates.
- ▶ Prepare documents, such as work orders, bills of lading, and shipping orders to route materials.

Shipping, Receiving, and Traffic Clerks

- ▶ Confer and correspond with establishment representatives to rectify problems, such as damages, shortages, and nonconformance to specifications.
- ▶ Requisition and store shipping materials and supplies to maintain inventory of stock.
- ▶ Deliver or route materials to departments, using work devices, such as handtruck, conveyor, or sorting bins.
- ▶ Pack, seal, label, and affix postage to prepare materials for shipping, using work devices, such as hand tools, power tools, and postage meter.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge, and Abilities

- ▶ Mathematics — Using mathematics to solve problems.
- ▶ Writing — Communicating effectively in writing as appropriate for the needs of the audience.
- ▶ Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- ▶ Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- ▶ Coordination — Adjusting actions in relation to others' actions.
- ▶ Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- ▶ Clerical — Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
- ▶ Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ Written Comprehension — The ability to read and understand information and ideas presented in writing.
- ▶ Oral Expression — The ability to communicate information and ideas in speaking so others will understand.

Work Environment

Shipping, Receiving, and Traffic Clerks work both indoors and outdoors. Working conditions depend on the type of employer. Clerks employed in large department stores usually work in comfortable areas that are air-conditioned, well-heated, and lighted. Those who work in large warehouses may experience uncomfortable temperatures depending on the weather. Workers' hands and clothing often get dirty from containers and glue. Clerks who ship and receive heavy merchandise may be injured and must be careful when moving and handling orders. Shipping and Receiving Clerks sometimes work under pressure to move merchandise in or out according to tight time schedules which may cause stress. This happens during certain times of the year when firms get rush orders.

Shipping, Receiving, and Traffic Clerks usually work 40 hours per week. However, when products, merchandise, or materials are needed in a hurry, Clerks may need to work overtime on weekends, holidays, and evenings.

Shipping, Receiving, and Traffic Clerks

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Shipping, Receiving, and Traffic Clerks				
43-5071	109,600	114,300	2,720	\$9.51 to \$15.75

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Shipping, Receiving, and Traffic Clerks is expected to grow more slowly than average for all occupations through 2012. Job growth continues to be somewhat limited by automation, as large warehouses increasingly use equipment such as hand-held scanners, computerized conveyor systems, robots, computer-directed trucks, and automatic data storage and retrieval systems. However, job opportunities are still expected to be high due to the estimated 22,500 who will retire or leave for other kinds of work between 2002 and 2012, requiring replacement workers.

Training/Requirements/Apprenticeships

Shipping, Receiving, and Traffic Clerks usually follow one of the following training paths:

- ▶ High school diploma or equivalent
- ▶ Community college programs
- ▶ Adult education
- ▶ Regional occupational programs
- ▶ On-the-job training
- ▶ Vocational schools

Some employers may require a valid California driver's license.

Recommended High School Course Work

High school preparation courses in language arts, general business, business mathematics, and computer technology are helpful.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following industry names to get a list of private firms and their addresses:

- ▶ All Other General Merchandise Stores
- ▶ Computer and Supply Merchant Wholesalers
- ▶ Department Stores
- ▶ Medical Equipment Merchant Wholesalers
- ▶ Office Equipment Merchant Wholesalers
- ▶ Other Building Material Dealers

Shipping, Receiving, and Traffic Clerks

- ▶ Discount Department Stores
- ▶ Hardware Stores
- ▶ Home Centers
- ▶ Paint and Wallpaper Stores
- ▶ Temporary Help Services

Search these **yellow page** headings for listings of private firms:

- ▶ Air Cargo and Package Express Service
- ▶ Delivery Service
- ▶ Freight Forwarding
- ▶ Mail Receiving and Forwarding Service
- ▶ Packing and Crating Service

Where Can the Job Lead?

Advancement opportunities are better in large companies and for those who continue to learn new skills. Shipping, Receiving, and Traffic Clerks may advance to shipping and receiving supervisor, warehouse manager, traffic rate clerk, or to traffic manager.

Other Sources of Information

International Warehouse Logistics Association
www.iwla.org

Careers in Logistics
 Council of Logistics Management
www.cscmp.org

Transportation, Storage, and Distribution Managers

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What They Do

Transportation, Storage, and Distribution Managers plan, direct, or coordinate the transportation, storage, or distribution activities of organizations. They supervise workers in shipping and receiving departments and may participate in hiring and training decisions. Transportation, Storage, and Distribution Managers preside over the flow of materials within the company and products coming in and being shipped out of the company. There are various distribution and shipping methods available. Products may be transported by tractor trailer trucks, ships, trains, or airlines. Transportation, Storage, and Distribution Managers examine products or materials in order to estimate quantities or weight and type and container required for storage or transport. They analyze the numerous shipping choices and select the most cost-effective option. Managers negotiate with carriers, warehouse operators, and insurance company representatives for services and preferential rates. They plan shipping routes and issue instructions to ensure that delivery times and locations are well-coordinated.

Transportation, Storage, and Distribution Managers also manage and control inventory materials and products to fill customer orders while avoiding the unnecessary costs of storing overstock items. They respond to customer's or shippers' questions and complaints regarding storage and distribution services. Managers also monitor spending to ensure that expenses comply with approved budgets.

Tasks

Transportation Managers

- ▶ Direct activities related to dispatching, routing, and tracking transportation vehicles, such as aircraft and railroad cars.
- ▶ Plan, organize and manage the work of subordinate staff to ensure that the work is accomplished in a manner consistent with organizational requirements.
- ▶ Direct investigations to verify and resolve customer or shipper complaints.
- ▶ Serve as contact persons for all workers within assigned territories.

Storage and Distribution Managers

- ▶ Supervise the activities of workers engaged in receiving, storing, testing, and shipping products or materials.
- ▶ Plan, develop, and implement warehouse safety and security programs and activities.

Transportation, Storage, and Distribution Managers

- ▶ Review invoices, work orders, consumption reports, and demand forecasts in order to estimate peak delivery periods and to issue work assignments.
- ▶ Schedule and monitor air or surface pickup, delivery, or distribution of products or materials.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge, and Abilities

- ▶ Control Precision — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- ▶ Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
- ▶ Coordination — Adjusting actions in relation to others' actions.
- ▶ Time Management — Managing one's own time and the time of others.
- ▶ Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- ▶ Management of Personnel Resources — Motivating, developing, and directing people as they work, identifying the best people for the job.
- ▶ Speaking — Talking to others to convey information effectively.
- ▶ Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- ▶ Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- ▶ Administration and Management — Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
- ▶ Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- ▶ Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- ▶ Speech Recognition — The ability to identify and understand the speech of another person.

Work Environment

Most Transportation, Storage, and Distribution Managers work in large manufacturing plants, warehouses, distribution centers, or trucking terminals. They may be exposed to extremes and changes in temperature, and noisy or dusty environments. Managers are exposed to hazards from working near conveyor belts, and moving and transportation equipment, but the work is generally safe for those who take reasonable care and adhere to safety rules.

Generally, Transportation, Storage, and Distribution Managers work 40 hours per week. Large plants or distribution centers may require shift work to provide oversight and support to staff working evening or swing shifts.

Transportation, Storage, and Distribution Managers

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Transportation, Storage, and Distribution Managers				
11-3071	9,800	11,800	390	\$25.96 to \$43.82

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Transportation, Storage, and Distribution managers is expected to grow slower than average for all occupations over the 2002–2012 period. However, opportunities will continue to arise from the need to replace the managers who retire or leave the labor force for other reasons. Also, the continuing increase of Internet purchases will create a continuing need for shipping services and Transportation, Storage, and Distribution Managers.

Training/Requirements/Apprenticeships

Transportation, Storage, and Distribution Managers usually follow one of the following training paths:

- ▶ Bachelor's degree
- ▶ Community college programs or certificates
- ▶ Vocational school
- ▶ Extensive on-the-job training

Educational requirements vary greatly from a bachelor's degree to a high school diploma or equivalent, depending upon the employer's requirements. Many community and state colleges offer education programs for Transportation, Storage, and Distribution Managers. A voluntary professional certification program for transportation and logistics is available through the American Society of Transportation and Logistics. (Refer to *Other Sources of Information*.)

Many community colleges offer manufacturing technology and machine shop certificates or degrees. Some community colleges offer tool design technology courses. Programs accredited by the National Institute for Metalworking Skills (NIMS) are listed at their Web site.

Recommended High School Course Work

High school preparation courses in language arts, general business, business mathematics, and computer technology are helpful.

Transportation, Storage, and Distribution Managers

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following industry names to get a list of private firms and their addresses:

- ▶ Couriers
- ▶ Freight Transportation Arrangement
- ▶ Fruit and Vegetable Merchant Wholesalers
- ▶ General Freight Trucking, Local
- ▶ General Line Grocery Merchant Wholesale
- ▶ Line-haul Railroads
- ▶ Offices of Bank Holding Companies
- ▶ Offices of Other Holding Companies
- ▶ Other Grocery Product Merchant Whsle
- ▶ Packaged Frozen Food Merchant Whsle

Search these **yellow page** headings for listings of private firms:

- ▶ Air Cargo & Package Express Service
- ▶ Freight Forwarding
- ▶ Packing & Crating Service
- ▶ Railroad Companies
- ▶ Ships & Ship Operation
- ▶ Trucking-Motor Freight
- ▶ Trucking Transportation Brokers

Where Can the Job Lead?

Advancement opportunities are better for those with a bachelor's degree. Experienced Transportation, Storage, and Distribution Managers may promote to plant manager or general manager with larger companies. They may also become self-employed as freight or distribution consultants providing inventory control or shipping guidance to clients.

Other Sources of Information

International Association of Machinists and Aerospace Workers
www.iamaw.org

The American Society of Transportation and Logistics
www.astl.org

Council of Supply Chain Management Professionals
www.cscmp.org

International Warehouse Logistics Association
www.iwla.com

The American Institute for Shippers' Associations, Inc.
www.shippers.org

The International Air Cargo Association
www.tiaca.org

Truck Drivers, Heavy and Tractor-Trailer

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What They Do

Heavy Truck and Tractor-Trailer Drivers drive trucks or vans with a capacity of at least 26,000 pounds gross vehicle weight. Before leaving the terminal or warehouse, drivers check the fuel level and oil in their trucks. They also inspect the trucks to make sure the brakes, windshield wipers, and lights are working and that a fire extinguisher, flares, and other safety equipment are aboard and in working order. Drivers make sure their cargo is secure. They report equipment that is inoperable or loaded improperly to the dispatcher. Heavy Truck and Tractor-Trailer Drivers transport goods including cars, livestock, and other materials in liquid, loose, or packaged form. Many routes cover long distances from city to city. Some companies use two drivers on long-distance runs. One person drives while the other driver rests in a berth behind the cab. These long runs may last for many days. The truck stops only for fuel, food, loading and unloading.

Long-distance Heavy Truck and Tractor-Trailer Drivers spend most of their working time behind the wheel, but may load or unload their cargo after arriving at the final destination. This is especially common when drivers haul specialty cargo, because they may be the only one at the destination familiar with the procedures to handle the materials. After these drivers reach their destination or complete their operating shift, the U.S. Department of Transportation requires that they complete reports detailing the trip, the condition of the truck and the circumstances of any accidents. Drivers are also subject to random alcohol and drug testing while they are on duty.

Tasks

Truck Drivers, Heavy

- ▶ Drive truck with capacity of more than 3 tons to transport and deliver cargo, materials, or damaged vehicles.
- ▶ Maintain radio or telephone contact with base or supervisor to receive instructions or be dispatched to new location.
- ▶ Maintain truck log according to state and federal regulations.
- ▶ Keep record of materials and products transported.

Tractor-Trailer Truck Drivers

- ▶ Drive tractor-trailer combination, applying knowledge of commercial driving regulations, to transport and deliver products, livestock, or materials, usually over long distance.

Truck Drivers, Heavy and Tractor-Trailer

- ▶ Maneuver truck into loading or unloading position, following signals from loading crew as needed.
- ▶ Drive truck to weigh station before and after loading, and along route to document weight and conform to state regulations.
- ▶ Maintain driver log according to Interstate Commerce Commission regulations.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge, and Abilities

- ▶ Operation and Control — Controlling operations of equipment or systems.
- ▶ Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- ▶ Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
- ▶ Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- ▶ Geography — Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Law and Government — Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- ▶ Far Vision — The ability to see details at a distance.
- ▶ Reaction Time — The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- ▶ Response Orientation — The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.
- ▶ Static Strength — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- ▶ Near Vision — The ability to see details at close range (within a few feet of the observer).
- ▶ Spatial Orientation — The ability to know your location in relation to the environment or to know where other objects are in relation to you.

Work Environment

Heavy Truck Drivers frequently travel at night, and on holidays and weekends, to avoid traffic delays and to deliver cargo on time. They normally work the most number of hours allowed by federal regulations. Many of the long haul trips keep drivers away from home several days at a time. Although recent truck model changes in seating, circulation of fresh air, and equipment for seeing improve safety and driving conditions, drivers on long trips may face boredom, loneliness, and fatigue. Also, vibration, noise, poor weather conditions, and the need to stay sharp and alert in heavy traffic can cause physical and mental stress for the driver. Larger companies generally

Truck Drivers, Heavy and Tractor-Trailer

provide global positioning systems (GPS) in their trucks. The GPS mapping software improves the working conditions for drivers by providing the truck's exact location, along with route maps to the next delivery location.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Truck Drivers, Heavy and Tractor-Trailer				
53-3032	121,900	150,900	4,890	\$14.32 to \$21.01

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Trends

Employment of Truck Drivers, Heavy and Tractor-Trailer is expected to grow faster than average for all occupations over the 2002-2012 period. The demand for Heavy Truck Drivers will remain strong because the increased use of rail, air, and ship transportation requires truck drivers to pick up and deliver shipments. Job opportunities may fluctuate from year to year, because the strength of the economy commands the amount of freight moved by trucks. Employment of drivers is brisk when the economy is strong. However, layoffs may occur when the economy slows.

Training/Requirements/Apprenticeships

Heavy and Tractor-Trailer Truck Drivers usually follow one of the following training paths:

- ▶ California driver's license, Class A
- ▶ High school diploma or equivalent
- ▶ Adult education
- ▶ Regional occupational programs
- ▶ Vocational schools
- ▶ Truck driving schools
- ▶ Extensive on-the-job training

Heavy Truck Drivers also must possess a valid California Class A driver's license which requires a good driving record and passing a vision and health examination. After obtaining a Class A license the driver must submit a medical form/certification every two years. Job seekers must be at least 21 years of age to drive most commercial vehicles in interstate commerce or to transport hazardous materials. For detailed information about how to obtain a Class A California driver's license, contact the California Department of Motor Vehicles. (Refer to *Other Sources of Information*.)

Many vocational and truck driving schools offer heavy truck driver training.

Recommended High School Course Work

High School preparation courses in driver training, automotive mechanics, accounting, general business, business mathematics, computer technology are helpful. Accounting and business classes are particularly helpful for those who plan to enter self-employment.

Truck Drivers, Heavy and Tractor-Trailer

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search under the following manufacturing industry names to get a list of private firms and their addresses:

- ▶ Cement
- ▶ Concrete Block and Brick
- ▶ Concrete Pipe
- ▶ General Freight Trucking, Local
- ▶ Motor Vehicle Towing
- ▶ Other Concrete Product
- ▶ Other Support Activities, Road Transport
- ▶ Ready-Mix Concrete
- ▶ Specialized Trucking, Local
- ▶ Specialized Trucking, Long-Distance
- ▶ Used Household and Office Goods Moving

Search these **yellow page** headings for listings of private firms:

- ▶ Brokers, Motor Transportation
- ▶ Delivery Service
- ▶ Freight Forwarding
- ▶ Freight Traffic Consultants
- ▶ Trucking
- ▶ Trucking Motor Freight

Where Can the Job Lead?

Advancement opportunities for Heavy Truck Drivers are limited. Advancement may entail driving runs that provide increased earnings or preferred schedules and working conditions. Some long-distance drivers purchase a truck and go into business for themselves. Many of these owner-operator businesses are successful, however some fail to earn a profit and go out of business. Those drivers considering self-employment should have a strong business background.

Other Sources of Information

American Trucking Association
www.truckline.com

California Department of Motor Vehicles
www.dmv.ca.gov

Professional Truck Driver Institute
www.ptdi.org

Truck Drivers, Light or Delivery Services

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What They Do

Light or Delivery Services Truck Drivers drive trucks that carry less than three tons. They normally move products and materials to and from local area places such as factories, warehouses, train stations, airports, private homes, office buildings, and stores. Drivers usually load or unload the merchandise at the customer's place of business. They may have helpers such as material handlers to load the truck according to the order of delivery. At the beginning of the shift, drivers obtain a delivery schedule from the dispatcher. Upon arrival at the customer's place of business, the driver unloads the shipment and the customer signs a receipt for the goods. Sometimes payment is made directly to the driver. At the end of their shift, the driver turns in receipts, money received, records of delivery, and reports of any mechanical problems.

Light Truck Drivers who sell company products to customers are called Driver-Sales Workers. They are responsible for delivering their company's product and also representing the company. Their response to customer complaints and requests can make the difference between a large order and a lost customer. Driver-sales workers' duties vary greatly depending upon the industry in which they work. Most work on wholesale routes that deliver to businesses and stores, rather than to homes. They may take orders and collect payments. Driver-sales workers may recommend changes in a store's order or encourage the manager to stock new products. They also seek new orders from businesses along their route.

Tasks

- ▶ Drive vehicles with capacities under three tons in order to transport materials to and from specified destinations such as railroad stations, plants, residences and offices, or within industrial yards.
- ▶ Inspect and maintain vehicle supplies and equipment, such as gas, oil, water, tires, lights, and brakes in order to ensure that vehicles are in proper working condition.
- ▶ Load and unload trucks, vans, or automobiles.
- ▶ Obey traffic laws, and follow established traffic and transportation procedures.
- ▶ Read maps, and follow written and verbal geographic directions.
- ▶ Verify the contents of inventory loads against shipping papers.
- ▶ Maintain records such as vehicle logs, records of cargo, or billing statements, in accordance with regulations.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Truck Drivers, Light or Delivery Services

Important Skills, Knowledge, and Abilities

- ▶ Operation and Control — Controlling operations of equipment or systems.
- ▶ Transportation — Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.
- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Geography — Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
- ▶ Public Safety and Security — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- ▶ Spatial Orientation — The ability to know your location in relation to the environment or to know where other objects are in relation to you.
- ▶ Reaction Time — The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
- ▶ Far Vision — The ability to see details at a distance.
- ▶ Static Strength — The ability to exert maximum muscle force to lift, push, pull, or carry objects.

Work Environment

Light or Delivery Services Truck Drivers may drive for several hours at a stretch, unloading cargo, and making many deliveries which can be tiring. Local truck drivers frequently work 50 or more hours a week and usually return home in the evening. Drivers who handle food for chain grocery stores, produce markets, or bakeries typically work long hours, starting at night or early in the morning. Most drivers have regular routes, although some have different routes each day. Many truck drivers especially driver-sales workers, load and unload their own trucks. This requires considerable lifting, carrying, and walking each day.

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Truck Drivers, Light or Delivery Services				
53-3033	104,300	127,100	3,240	\$9.11 to \$15.95

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Truck Drivers, Light or Delivery Services

Trends

Employment of Truck Drivers, Light or Delivery Services is expected to grow faster than average for all occupations over the 2002-2012 period. The need for local deliveries has grown due to the constant development of shopping centers, homes, and malls. This growth spurs a need for Light Truck Drivers to make more deliveries from central warehouses in order to meet customer demand.

Training/Requirements/Apprenticeships

Truck Drivers, Light or Delivery Services usually follow one of the following training paths:

- ▶ High school diploma or equivalent
- ▶ Adult education
- ▶ Regional occupational programs
- ▶ Vocational schools
- ▶ Truck driving schools
- ▶ Extensive on-the-job training

Drivers also must possess a valid California driver's license and a good driving record. If Light Truck Drivers wish to advance, there are a wide variety of heavy truck driving training programs available through vocational and truck driving schools.

Recommended High School Course Work

High School preparation courses in driver training, automotive mechanics, accounting, general business, business mathematics, and computer technology are helpful. Accounting and business classes are particularly helpful for those who plan to enter self-employment.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following manufacturing industry names to get a list of private firms and their addresses:

- ▶ Couriers
- ▶ General Freight Trucking, Local
- ▶ Other Grocery & Related Products Merchant
- ▶ Fresh Fruit & Vegetable Merchant
- ▶ Packaged Frozen Food Merchant
- ▶ General Line Grocery Merchant
- ▶ Meat & Meat Product Merchant
- ▶ Fish and Seafood Merchant
- ▶ Dairy Product Merchant
- ▶ General Warehousing and Storage
- ▶ Other Warehousing and Storage
- ▶ Refrigerated Warehousing and Storage

Search these **yellow page** headings for listings of private firms:

- ▶ Brokers, Motor Transportation
- ▶ Delivery Service
- ▶ Trucking
- ▶ Trucking Motor Freight

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Where Can The Job Lead?

Advancement opportunities for Light Truck Drivers are a bit limited. Light Truck Drivers may become driver trainers, supervisors of warehouses, terminals and docks or company branch managers. Drivers often change employers for better pay, different kinds of driving experience, more responsibility, or better working conditions. Local or Light Truck Drivers may also advance to driving heavy or special types of trucks, or transfer to long-distance truck driving. Working for companies that also employ long-distance drivers is the best way to advance to these positions.

Other Sources of Information

American Trucking Association
www.truckline.com

Professional Truck Driver Institute
www.ptdi.org

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